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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 2 1935

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REPORT FOR THE WEEK ENDING JULY 6, 1935.

HAVRE:

The 0.53 inch rainfall recorded during the past week was not enough to correct the damage already done. Most small grains on continuous methods are in a bad way and many can be recorded as failures at this time. Spring plowing seems to have suffered more than fall plowing. Many plots are quite spotted, showing the effect of snow drifts or small amounts of additional water. Barley seems to have suffered less than other spring grains, some of the better plots of fallow show a promise of fair yields.

Flax is especially good as compared with small grains, it is not very weedy and is nearly past the bloom, but will need favorable conditions to mature a very large yield. Corn is growing nicely and is not large enough to show drought injury. Irrigated alfalfa is in the stack. Ranges continue to burn on the prairie, but are growing very nicely in the mountains, where effective showers have occurred during the past week. Haying is quite general and reports are that yields will be even less than last year, especially for our native grasses.

R. L. Shotwell, U.S.D.A. Entomologist, was a visitor at the station during the week.

Maximum temperature, 90°; minimum, 44°; precipitation, 0.53 inch; precipitation for June, 0.68 inch, lowest on station records.

HUNTLEY:

Light showers were received every day but one during the last week. On two occasions a small amount of light hail fell but no damage was done to local crops. The showers, together with moderate temperatures and cloudy skies, have retarded the firing of grain crops and their condition as a whole appears to be more healthy than it was a week ago. Corn has continued to make a good growth. Soil samples indicate that this crop has sufficient moisture in most plots to carry it for some time.

Grasshoppers are again appearing in large numbers in some parts of the county and farmers report serious damage to winter wheat, sugar beets and garden crops. Poison bran is being used extensively on many farms. On the Field Station, the only places where grasshoppers are numerous are on plots adjoining alfalfa. When the alfalfa was cut for hay the insects moved onto the other crops and in spots where the concentration was heavy some injury is noticeable.

Field work has consisted of plowing under green manure crops and late fallows, cultivating alleys and row crops and fencing pastures.

The total precipitation for June was 0.98 inch which is less than one-half the average for the month and was the fourth lowest record for the period in the history of the station. With one exception the rainfall throughout the month consisted of showers of less than 0.10 inch. Their distribution, however, was uniform, the longest period without measurable precipitation being five days.

Maximum temperature, 92°; minimum, 43°; precipitation, 0.45 inch.

SHERIDAN:

Weather conditions continued alternately cool and quite warm, although with no extreme temperatures, and with no rain. Condition of grain crops continued to deteriorate accordingly, the cool days helping to delay firing to some extent. Haying was in progress throughout the week. Nearly all grass and some mixed grass and alfalfa on low ground remains to be cut. Corn and late forage crops made a rapid growth, but corn is quite small for the time of season. All spring grain is heading short.

Firing continues heaviest where the tillering was greatest and the stand the heaviest. The upper half of the heads on much of some fallow plots is white and empty while the lower half is filling fairly well. On land where the stand is not as thick grain appears to be in fair condition, with fall grain, Vaughn barley, and Brunker oats filling fair.

Total precipitation for June was 1.28 inches, 0.80 inch below the station average for the month. None of it came in sufficient quantity at one time to be of much benefit to early grain. Temperatures averaged from 3 to 4 degrees below the station average.

Maximum temperature, 95°; minimum, 48°; precipitation, 0.15 inch.

DICKINSON:

Hot weather early in the week with dry soil damaged crops to some extent. Early seeded small grains which had stooled well and made a heavy straw growth show some drying of the leaves. Wheat, manured, on rotation 62, showed browning of the leaves to the top of the plant. Barley on the rotations is nearly fully headed, while wheat and oats have started to head. Corn has made rapid growth. Weeds are coming on very rapidly.

Showers on the 3rd, 4th, and 5th amounting to 0.98 inch have greatly improved the outlook. Heavier rains fell in nearly every direction in the locality, in some places accompanied by destructive winds.

Maximum temperature, 94°; minimum, 51°; precipitation, 0.98 inch; precipitation to date in 1935, 9.92 inches.

MANDAN:

Agronomy - The weather of the week has been characterized by the highest temperatures of the year, so far, moderately high winds part of the time and high humidity. Up to the evening of the 4th moisture had been removed from the soil to a point where crops were showing marked signs of suffering - especially under conditions of continuous grain. On the evening of the 4th rain started and continued most of the night. The fall was rather gentle and the next morning there was little sign of washing even on slopes. The total was 0.97 inch.

Mr. Brinsmade of the Division of Cereal Crops and Diseases has reported both leaf and stem rust on susceptible varieties. His first observation of rust at this station was on June 21. There is every indication that rust will cause considerable damage where susceptible varieties are used.

Crops in general look much better than they have for several years. Corn though seemingly slow to start, is about as far along as usual and is really looking fine for this time of the year. The prairie appears to have a heavy growth of vegetation, though much of it

is other plants than grasses, which apparently have suffered some loss and setback from the past two years of drought. Of the grasses, stipa comata (needle grass) is heading abundantly in the prairie land round the station.

Maximum temperature, 98°; minimum, 46°; precipitation, 1.14 inches.

Arboriculture - Weed growth is now extremely rapid and causes considerable work to keep under control particularly in nursery fields where seedlings are small. The rains during the middle of the week greatly benefited all types of growth, much of which was badly in need of moisture. There appears no evidence of American elm seed germinating which was collected this spring. This seed was blown off the trees before maturing and appears to have rotted in the ground.

J. Allen Clark, Cereal Crops and Diseases, and E. H. Aicher, Soil Conservation Service, Huron, S.Dak., were visitors during the week.

BELLE FOURCHE:

Hot weather during the week has been favorable to a rapid growth of corn, sorgo, and potatoes, but all small grain is burning badly. Heading of oats is nearly completed, but owing to the lack of moisture, many of the heads will be only partly emerged. Spring wheat is beginning to head, and barley apparently will mature with most of the heads in the boot.

Aside from 0.55 inch precipitation on June 10, no rains heavy enough to be of material value to growing crops have been received since May 31. A total of 1.75 inches precipitation was recorded during June, which is 0.89 inch below the 27-year average for the month.

Field work included the cultivating of corn, sorgo, and potatoes. Roadways were cultivated, and green manure crops of field peas and sweetclover were plowed under.

Maximum temperature, 101°; minimum, 52°; precipitation, 0.07 inch.

ARCHER:

During the past week the weather was warm with local showers during the forepart and cloudiness on July 6. During the afternoon of July 2 a shower totaling 0.59 inch occurred, accompanied with some hail which caused light damage to tender growth.

Vegetation made rapid growth. The early seedings of wheat and early varieties of barley are in boot. The first alfalfa blooms have appeared. Grass and alfalfa seedings are doing unusually well.

Work at the station consisted of cleaning yards, some hoeing, and pulling up and hauling away dead poplars and boxelders.

Director W. L. Quayle and H. L. Curtiss, Landscape Artist of the University of Wyoming, visited the station July 2.

Maximum temperature, 87°; minimum, 46°; precipitation, 0.59 inch.

AKRON:

Five of the past seven days have registered a maximum in excess of 90° for the first heat period of the season. This has caused the row crops as well as the weeds to growth rapidly, and also appears to be causing the barley to ripen prematurely.

Fourth Annual Field Day was held this past Tuesday with about 200 to 250 people from all over north-east Colorado present. The

forenoon was spent in organized inspection of five small grain and forestry projects. State College officials aided Mr. Curtis in officering these various projects. The afternoon, inside program was featured by Messrs. A.E.McClymonds, Alvin Kezer, and A.K.Hepperly.

All experimental corn has been thinned to uniform stands. Original stands were rather unsatisfactory for establishing desired uniform stands. Other field work consisted of hoeing weeds, cultivating row crops, and work incident to field day.

Besides many prominent State College Officials on field day, T. R. Stanton spent Wednesday and Thursday here in the interest of oat improvement work.

Maximum temperature, 95°; minimum, 50°; precipitation, none.

NORTH PLATTE:

Weather for the week has been seasonable. Five days were bright, dry and windy, and two sultry with light showers. Corn has made unusually rapid growth. A surface planted field on the station and a few farmer fields reached knee height by July 1, which is one of the old rules for normalcy. The majority of fields are about one-half that size.

Winter wheat is beginning to ripen. A few areas where stands are heavy show burning. This is probably due to the tender growth caused by cool weather earlier, and to shallow rooting resulting from a dry subsoil during fall and winter and abundant surface moisture during the spring months. Heavy rust damage has occurred in the eastern part of the State. There has been a rapid increase in local infestation during the past week, but if ripening continues at the present rate, it is probable that the average loss from rust will not be over 15 to 20 per cent.

Dean W. W. Burr visited the station July 2, and K. S. Quisenberry on July 3.

COLBY:

This week has been dry and rather hot. Part of the time it has been windy and dusty with some soil blowing on bare fields. There is ample moisture in clean summer fallow fields and for the present needs of row crops, but pastures are beginning to dry up and weedy fields are getting too dry to till satisfactorily.

The corn and sorghum plots are clean and those crops are growing rapidly. Part of the MC plot of spring wheat headed on the 30th and the plot of barley in rotation 360 headed yesterday. The spring small grains on the other plots have been mostly smothered by weeds and will not head except here and there a plant.

President Farrell and Dean Call visited the station yesterday. On a trip to the northwest of here where many fields of winter wheat appeared promising a few weeks ago it was found that most of them are now heavily infested with stem rust.

Maximum temperature, 100°; minimum, 60°; precipitation, 0.06 inch; precipitation for June, 3.14 inches; 48-year average, 2.88 inches; precipitation, January 1 to July 1, 6.99 inches; 48-year average, 9.09 inches.

GARDEN CITY:

All crops are making rapid growth in southwest Kansas, due to the hot weather and adequate moisture. Row crop land has enough moisture to continue growth for some time, but the slopes are showing signs of drought in the wilted appearance of plants.

On the station corn and sorghums look very good but drilled Sudan grass is beginning to burn. Weeds on plots where small grain failed are dying, even thistles are wilting badly. Pasture land is very dry also.

The week has been very hot. The lowest maximum temperature was 96°, and the wind velocity averaged 14.1 miles per hour at two feet above the ground.

Maximum temperature, 104°; minimum, 67°; precipitation, none.

HAYS:

This has been the first week without rain for several weeks and the average temperature has been higher than for any previous week this season. The ground covered with vegetation is already getting dry and hard and the vegetation is wilting. Spring small grains are needing rain, especially oats. These crops have fallen prey to black rust and are suffering from that cause also, especially the oats which are beginning to "melt" down in spots. Previous to the last few days oats were the most promising of the spring grains, but rust seems to be affecting it more seriously than it is the barley although the latter is heavily covered with rust. It appears at this writing that neither crop will be worth harvesting. Oats are in the milk stage and barley varies from the milk to the soft dough stage. As reported before, the weeds have already hidden the spring wheat.

Row crops still have plenty of moisture and are making good growth. Corn is about 16 inches high and kafir about 12 on ground seeded with furrow opener planter. Both crops are from three to four inches shorter where planted with lister in the C. C. series. Winter wheat is drying up without filling due to rust mentioned before. Most of the yields on the plots will be discarded not only because the yields closely approach that of failure, but because any differences found in yields are, to a large extent, due to factors other than tillage or rotation influences.

Thinning of row crops was finished July 3. All row crops and plowed fallows and part of the listed fallows were cultivated during the week. Weed growth is now under control on these plots. A few plots of soil samples were taken. Harvesting of wheat was commenced Friday. The binder was used on wheat on fallow in rotation 570, on fallow in the C. C. series and on fallow plot, MF-Q. All other plots are being harvested with a mower, not so much for the wheat but to stop the heavy growth of weeds which covers all the wheat plots. Canada field peas were plowed under July 1. This is from two to three weeks later than usual for the turning under of peas at Hays. On account of the late germination the peas were not ready to plow under until about June 22. The additional delay was on account of wet soil.

The Cereal Division of the U. S. Department of Agriculture commenced work this week on a new project established on the Fort Hays Experiment Station. It includes a study of bindweed eradication by tillage methods and sprays, and is under the supervision of F.L.Timmons, a representative of the Division of Cereal Crops and Diseases.

Maximum temperature, 100°; minimum, 64°; precipitation, none.

TUCUMCARI:

A torrential rain totaling 1.40 inches the night of July 1 washed plots and increase land considerably, while the following night another rain of 0.63 inch caused still greater gullying. Severe injury was confined to some small plots of forage sorghums and drilled increase land.

Surface soil which was too dry to permit placing seed in moist soil on or just before July 1 was so wet after the rains that all July 1 date-of-planting plots were not planted until July 5.

Crops and ranges are improving rapidly, with precipitation to date this year only about one-half inch below the 30-year normal for this period.

Station work included completion of a very light alfalfa harvest, planting of late plots, work on well, continuation of row crop thinning, and spike tooth harrowing plots and drilled sorghum land, to break crust.

Maximum temperature, 99°; minimum, 62°; precipitation, 2.03 inches; evaporation, 2.802 inches; wind velocity, 8.0 miles per hour.

DALHART:

The thinning of sorghums and their cultivation as thinned has occupied the time of the station force during the week. Good growth has been secured during the week so that thinning is now just at the right stage of growth. The coming week should easily see the end of this operation. Weeds are especially troublesome on plots around the edges of all fields where the deposits were made by the wind. There is a rather uniform distribution of annual weeds over the entire station from the seeds transported by the winds. Russian thistles and redroot (amaranth) are the chief weeds. It will be necessary to hoe out the scattering weeds in the rows as soon as the thinning is completed. Almost without exception excellent stands have been secured; the exceptions are a few rows of cotton and soybeans.

Without any moisture being received the corn and the early planted sorghums, which are now approximately knee high, have started curling during the week. On sod land the growth of thistles has been stopped and the redroot weeds are dying. Much more growth has been secured on the sorghums and cowpeas than last year at this time. There is insufficient moisture in the soil to keep up normal growth of corn and early planted sorghums much longer.

Maximum temperature, 99°; minimum, 60°; precipitation, trace. Moisture received for 1935 to this date is 4.65 inches; deficiency of moisture for 1935 to this date is 4.65 inches. The precipitation of only 50 per cent of normal to this date is in keeping with the moisture deficiencies for both 1933 and 1934.

BIG SPRING:

Weather conditions during the past week have been very favorable for field work as well as plant growth. All crops that were replanted after the hail have emerged to good stands and are making a good growth.

The winter wheat plots were threshed during the week, with yields ranging from failures to 4 bushels per acre. These poor yields were due partly to the hail storm during the latter part of June, which beat down a good per cent of plants just as they were ripening.

Station work has consisted of knifeing, cultivating, and thinning. Milo in the rotations and in the spacing plots was thinned as was also

the June 15 date-of-planting of sorghums.
Maximum temperature, 94°; minimum, 71°; precipitation, none.

LAWTON: (Report for the two weeks ending July 6, 1935.)

Crops made rapid growth during the period June 22 to 29 with maximum temperatures ranging from 81 to 94. The five showers that fell during the first 24 days in June left the surface soil lacking in moisture, but this condition was corrected by four rains June 25 to 29 that amounted to 2.07 inches. Although these rains interfered with small grain threshing, they were distinctly beneficial to row crops that now present a vigorous, luxuriant growth. The total precipitation of 2.61 inches in June was only 0.85 inch below the monthly normal. The total of 15.35 inches for the first six months is 0.62 inch above normal. The deficiency for the same period one year ago was 3.82 inches.

No precipitation has fallen since June 29 and field work-cotton chopping and cultivation - has been prosecuted rapidly and steadily. Cotton chopping, with the exception of the June 15 planting, was completed July 5, and the last cultivation on most of the sorghums has also been completed.

Corn will be past the roasting ear stage within a few days and a good crop seems to be assured. The corn ear worms have been very injurious this year and they are responsible for the heavy percentage of poorly filled ears.

A third cutting of alfalfa is ready for harvest. The quality of hay is good and high yields will be cut on the creek bottom fields. On the upland, the yields will be rather light.

The maximum temperatures of 96 and 97 the past few days, with a very low wind velocity have made the heat oppressive.

WOODWARD:

A light shower of 0.20 inch occurred on July 3. Since then sky has been clear and temperatures high. All green wheat suddenly dried and fields present an appearance of being dead ripe with a promise of good yields. But in most cases heads are empty or with very poor shriveled kernels. The combine is in operation on the station and will continue steadily until all wheat is harvested.

Grain sorghums are all growing nicely with perfect stands. Conditions so far have been so favorable for the grain sorghums there is much shaking of heads and prediction that "they can't last". However, they have a good start with enough moisture in the soil to carry them for a month.

The balloon flower (Platycodon grandiflorum) has been in bloom a month and flower buds still setting thickly give promise of blooms for many weeks to come. The flower is dark blue or white, bell-shaped and two to three inches across. It is one of the best of summer blooming perennials, its chief fault being a weak stem. There are several varieties that have not been tried. Perhaps some of them will stand up better.

Work of the week has consisted of harvesting wheat and cultivating row crops, thinning sorghums, sprouting grapes, picking fruit and watering and hoeing nursery.

Ricardo Kugler from Argentine, S. A., was a station visitor this week.

Maximum temperature, 100°; minimum, 71°; precipitation, 0.20 inch.

PENDLETON: (Report for the two weeks ending July 6, 1935.)

Weather the past two weeks has been ideal for the ripening grain, with rather low wind velocity, moderate maximum temperatures and cool nights. The winter and spring wheats are ripening normally with good color and fine plump grain. The wheat yields on the better lands will be very good, but the yields in the western part of Umatilla County and the four counties to the west will be the lowest in a long period of years. Harvest of winter wheat started in the western portion of the county about July 1, yields reported are very low, with some fields abandoned on account of low yields. Harvest of winter wheat on the better lands will start about July 15 with spring wheat about ten days later. The harvest of peas for the canneries is progressing nicely, with very fair yields reported. On the station the wheat in the roadways has been cut for hay and put in the barn, field and garden peas cut, rotation and tillage plots rogued and all fallow plots cultivated with a rotary rod weeder. The annual field day was held on June 26 with a very good crowd in attendance.

Visitors: Chancellor W. J. Kerr, Oregon State Board of Higher Education; Vice Director R. S. Besse, Oregon Experiment Station; Supt. D. E. Richards, Union Experiment Station; P. V. Cardon, and H. A. Schoth, Division of Forage Crops and Diseases; Messrs. Bayles, Sprague, Holton and Salmon, of the Division of Cereal Crops and Diseases.

Maximum temperature, June, 90°, July 79°; minimum, June 35°, July 37°; mean for June 62°; precipitation, June 0.94 inch, July 0.06 inch.

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JUL 22

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REPORT FOR THE WEEK ENDING JULY 13, 1935.

HAVRE:

The week continued dry. The maximum temperatures were not unusually high, and small grain crops on good fallow are maturing in fairly good shape, but all other methods are suffering. There will probably be more absolute failures in small grains than any other year since the station started. Some of the small grains are burning so badly that they can hardly be cut with a mower. Corn is growing rapidly, but the leaves are rolling somewhat in the middle of the day. More rain will be necessary to mature this crop. Flax is unusually good this year, compared with other grains, and up to this time shows only a small amount of damage, but more rain will be necessary for the seed to fill out. Weed growth on the plots is quite small, even on the badly burned grain plots.

There were a number of heavy thunder showers in this part of the State during the week. These were more frequent in the higher elevations. There has been 2 inches since July 1 at the summer cattle range, located about 25 miles away. Precipitation for June, 0.68 inch, departure 2.17 inches. June, 1935, was the third driest in the 56 years records of the U. S. Weather Bureau, Havre, and was the driest since this station was established.

Visitors for the week included, H. L. Westover, Division of Forage Crops and Diseases, and Mr. Miller, Bureau of Chemistry and Soils. There were also a few farmers who were interested mostly in crested wheatgrass.

Maximum temperature, 92°; minimum, 49°; precipitation, 0.05 inch.

JUDITH BASIN:

There has been serious deterioration among all crops during the past two weeks. Spring grain on fall plowing appears to be a total failure at this time. That on spring plowing, disked corn ground, and fallow could produce a little grain if heavy rains occurred within the next few days. The condition of winter wheat remains poor, with much of it hardly being worth the expense of harvesting. Hay crops are very short, and the next winter's feed situation may be more serious than that of last year. With the exception of the mountain ranges, grass is becoming short and will not furnish much pasture unless rains are received. The crested wheatgrass and bromegrass pastures in the pasture experiment are holding up well.

Preparations are being made for the annual Farmers' Picnic to be held July 18.

Recent station visitors have included, H. L. Westover, Forage Crops Division; H.E.Tower, Soil Conservation Service; and Messrs. Morris, Palmer, Peterson, and Reitz, Montana State College.

Maximum temperature, 90°; minimum, 39°; precipitation, 0.32 inch.

HUNTLEY:

Hot weather has prevailed throughout the week. At the station precipitation was limited to a trace, but in territory adjacent to the station torrential rains, and in some places hail, fell, causing considerable damage to crops and property. Where this storm passed over the winter wheat country, that portion of the crop which was not cut to pieces by hail was so badly lodged by wind and rain that harvesting will be difficult.

On the plots, corn, sorgo, and Sudan grass are the only crops which have shown much growth during the week. Small grains, flax, and hay crops are beginning to fire seriously. Winter wheat on the early maturing plots and on the more advanced fields is beginning to turn color. Ripening, however, is not uniform due to the uneven stand resulting from winter drought. Where the stands are thick the crop could now be harvested with a binder, but in the thin places the wheat is still green.

Maximum temperature, 92°; minimum, 45°; precipitation, trace.

SHERIDAN:

Fair and warm weather continued over the entire week, with temperatures about 4° above the station average. This is the first time since the middle of April that temperatures have continued above the station average for any extended period. Crops continue to fire, but apparently no worse than last week excepting on later grain. Corn, Sudan grass, and sorgo continue to make a good growth, but corn began to curl early in the week. One plot of rye has ripened. The remainder of the rye, winter wheat, Vaughn barley, and Brunker oats are turning fast.

The remainder of the hay was gotten up, miscellaneous row crops were cultivated, and sheep on annual crops and on crested wheatgrass pasture were weighed and moved to other pasture.

W. L. Quayle, Director of State Farms, and Mr. Babbs, in charge of vegetable crops at the Cheyenne Station, were at the station during the week.

Grasshoppers are now getting thick over much of the station, and a ton of poison bait (dry weight) was scattered on the 11th.

Maximum temperature, 98°; minimum, 45°; precipitation, trace.

DICKINSON:

Showers amounting to 0.67 inch on the 9th, 0.30 on the 10th, and 0.77 on the 11th, greatly improved the crop outlook. Although the rain fell rapidly all three nights there was not much run-off or soil washing except during the last rain. Rains were much heavier in some localities to the west and north, and were accompanied by hail in a few localities. A washout near Beach delayed Northern Pacific trains for a day.

All crops have grown rapidly since the rain except wheat, which in places was so severely injured by heat and drought the first three days of the month that it seems to have stood still since the rain. Late wheat looks better now than early seeded but since stem rust infection is general and it will be more than two weeks till harvest, the early wheat may develop a heavy infestation of rust if weather conditions are favorable. Oats, barley, and flax have developed rapidly and promise relatively better yields than wheat.

Visitors included H. L. Westover, Forage Crops and Diseases; H. K. Hayes, Agronomist, Minnesota Experiment Station; J. A. Clark, Cereal Crops and Diseases; and Glen Reichert, Smith-Hughes instructor at Beach, North Dakota and his class in vocational agriculture. J. S. Cole and J. C. Thysell visited the station to-day, Saturday.

Maximum temperature, 93°; minimum, 50°; precipitation, 1.74 inches.

MANDAN:

Agronomy - Field work has been delayed during the past week by frequent and heavy night rains. On the morning of the 9th, 1.38 inches was recorded, 0.88 on the 10th, and 0.87 on the 11th. A severe electrical storm accompanied the 0.87, which fell in less than an hour and caused a good deal of washing. The Heart River has been bank full and low ground flooded. Water 2 to 3 feet deep in places flowed down the city streets.

All row crops and fallow needed cultivation after the rains, and this is being done as fast as possible. Hay that was down is practically spoiled. All crops are making an excellent growth at present. Corn is advanced to nearly normal seasonal growth. Weeds are coming rapidly.

The total rainfall for June was 2.85 inches, compared with the 60-year average of 3.36 inches. The total for the year to June 30 was 10.19 inches, or a little over an inch above normal. The July rainfall to date is 4.14 inches compared with the normal of 2.32.

Maximum temperature, 86°; minimum, 58°; precipitation, 3.13 inches.

Cooperative Grazing Experiment - Native vegetation has made an excellent growth and is now ready for hay making in many places. Blue grama grass is in excellent condition for grazing. It is growing abundantly in spots that appeared to be entirely dead sometime ago. Some spots that were heavily grazed are dead, but the growth on others is so good that more than the normal amount of feed is being produced by blue grama. Weeds are abundant in most pastures. Peppergrass is especially thick over most of the area.

The gains of the steers during June were the highest of record for June. Grass was in excellent condition for grazing as it was all new growth. The steers were also in prime condition to put on rapid gains. Following are the June gains:

Pasture (acres)	No. of steers	Gains per head (pounds)
100	10	200.5
70	10	186.0
70 (rot.)	12	146.3
Crested wheat (7)	5	182.0
145. (reserve)	13	174.6

Two more steers were added to the crested wheatgrass pasture as there was more feed than 5 could handle. The rotation steers grazed a short division during part of the month, and their gains were reduced.

Arboriculture - The wet weather during the week has prevented any considerable amount of field work. Contour ditches around nursery fields have been reinforced, as some of them were not wide enough to carry off all surplus water during the heavy run-off. Considerable washing took place in areas not protected by ditches. Hoeing and cultivation has been carried on when weather permitted. Carl Hartley, Division of Plant Pathology, and Ernest Wright, Pathologist of the

Plains Shelterbelt project, visited the station on the 9th and outlined a series of treatments for damping-off experiments with conifers. The seed beds have been made, but the seed will not be sown for a week.

Horticulture - All trees and shrubs are making a good growth after the recent rains. A heavy downpour occurred on the night of July 10, which caused a considerable amount of soil washing in coulee orchards and other places. Juneberries are now ripening, good yields being the rule. Currants will be ready for picking next week. A few early gooseberries are also ripe. Currants and gooseberries will produce fair to good crops, but strawberries will produce but little fruit this year.

Work during the week included making softwood cuttings, washing out seeds, cultivating, and hoeing.

The Third Annual tour of the farmers of the Missouri Slope took place on July 11. It was organized by H. O. Putnam, county agent of Burleigh County, R. C. Newcomer, county agent of Morton County, and other county agents of the Missouri Slope area. A good crowd visited the station, considering that the roads were impassible from many sections. The program consisted of talks and a tour of the field station.

Visitors for the week included J. S. Cole, Div. Dry Land Agriculture, H. L. Westover, Div. Forage Crops and Diseases, Carl Hartley, Div. Plant Pathology, J. A. Clark, Div. Cereal Crops and Diseases, G. Baker, District Supervisor, AAA, H. K. Hayes, Chief, Agron. and Plant Genetics, U. of Minn., H. E. Engstrom, SCS, Huron, S. Dak., E. Wright, Pathologist, Plains Shelterbelt project, H. L. Walster, Director, N. Dak. Agric. College, and W. T. Butler, Rust Investigations.

BELLE FOURCHE:

The week has been hot and dry. One negligible light shower occurred, and a total of only 0.16 inch precipitation has been received in July. Early crops have utilized practically all the available moisture in the soil, and small grain is burning badly. Spring wheat has succeeded in heading on most of the plots, and flax is in full bloom. Corn and sorgo have made a rapid growth, but corn is on the verge of suffering from lack of moisture. Field work consisted largely of cultivating and weeding operations in preparation for the annual farm picnic which was held at the station on July 13. Sod plots were plowed for flax, corn and sorgo were thinned, fallow plots were duckfooted, and roads were dragged. The various fallow and cultivated plots, alleyways, and roads were hoed.

Maximum temperature, 96°; minimum, 52°; precipitation, 0.07 inch.

ARCHER:

During the past week the weather was warm with local showers which, at the station, were mostly sprinkles. A good rain would materially aid plant growth. Serious conditions are developing for the wheat, oats, and barley unless rains of substantial amounts occur in the near future. Early seeded wheats and Smyrna barley are heading. Pastures are good but need rain. Row crops are doing well. Work at the station consisted of cultivating corn, potatoes, beans, and trees. Work with the lister-cultivator was started in the dairy field to-day.

T. T. Ong of China, and Leroy Powers of the Cheyenne Horticultural Field Station were station visitors July 8.

Maximum temperature, 92°; minimum, 51°; precipitation, 0.22 inch.

AKRON:

Maximum temperature was above 90° for 10 consecutive days, July 1 - 10, with an average of 94.1°. This heat period caused corn and other row crops to grow sharply, but was unfavorable for the small grains, causing hurried, premature ripening. It has been a week of scattered thunder showers, with restricted regions receiving consequential amounts. This station received two small showers. There is as yet no evidence of water shortage on the station. Leaf and stem rusts made their appearance last week and are quite noticeable on all susceptible cereals by this week end. The stem rust is quite noticeable on Hard Federation which was used for reseeding the rotation winter wheat plots. Foundation Club Mariout and Flynn barleys were harvested. Also the bulk of the corn land seeded barley plots on the rotation block. Considerable harvesting was also accomplished on the cereal project. Corn cultivation received necessary attention. Considerable time was spent with hoes cleaning up escaped weeds following the recent cultivations.

K. S. Quisenberry spent the fore part of the week here in the interest of hard red winter wheat investigations. D. W. Robertson of the Colorado Station joined him here on Monday.

Maximum temperature, 98°; minimum, 58°; precipitation, 0.06 inch.

NORTH PLATTE:

Weather for the week has been warm and dry. Small grains have ripened rapidly. Rust is causing severe damage in late wheat, but the injury is slight on the earlier wheat that is now ready for harvest. Binders were started on the station on the 10th. With continued dry weather, all winter wheat on the station will be harvested by July 17 or 18. Early barleys are now ripe, and all station barley will be ready to harvest as soon as winter wheat is out of the way.

Row crops have continued rapid growth. Second crop alfalfa that was delayed in some areas by army or cut worm injury is now recovering rapidly.

Maximum temperature, 96°; minimum, 55°; precipitation, 0.05 inch.

COLBY:

This has been a hot, dry week. All crops have wilted more or less badly in the afternoons. Pastures are almost dried up. All the small grain plots have dried up, even the weeds on most of them being badly dried or wilted.

Corn was cultivated this week for the second time. There were not many weeds. The ground was hot and dry on top and moist but hard beneath the surface. The corn was about 18 inches high. The sorghums are growing nicely and are beginning to show above the listed ridges.

Maximum temperature, 107°; minimum, 58°; precipitation, 0.29 inch.

HAYS:

The weather during the past week has been generally sunny and hot with two days of hot winds. Row crops have been making excellent growth and although wilting slightly look very good. Barley and oats have completely dried out, and the last of these crops are being cut with the mower to-day. Rust damage on these crops was so heavy the heads failed to develop grain. Spring wheat, which never looked

promising, was completely hidden by weeds and was harvested with a mower July 12.

The winter wheat harvest was finished early in the week with the mower. As previously reported, only three plots of winter wheat were harvested for yield determinations. These plots were threshed to-day and the yields are as follows:

Wheat on fallow in the C. C. series.....	4.2	bushels per acre.
Plot Q in the M. F. series.....	3.8	" " "
Wheat on 3-year fallow in rotation 570.....	3.5	" " "

The first two yields given, 4.2 bushels and 3.8 bushels, represent the best wheat on fallowed plots except 570. The results from the fallow in the C. C. series and Q in the M. F. series seem more accidental than real, because of the 44 fallowed plots on the project there were several which had no wheat at all and the others would not have yielded to exceed 1 bushel per acre. There were no plots of wheat on crop land that would have produced to exceed 1 bushel per acre, and most of them would have produced less than ½ bushel per acre. The sorghum plots were cultivated early in the week, and since then tillage work in preparation for the 1936 wheat crop has been in progress. Practically all the first operation on plots to be early tilled has been done.

Because of the weed growth on all small grain plots, the ground is very dry. The 10 inches of rain during May and June has already been consumed. The ground turns dry but breaks up fairly well.

Several colonies of Blister beetles have suddenly appeared upon the project. As yet they have not injured any of the crops.

Maximum temperature, 110°; minimum, 57°; precipitation, none.

GARDEN CITY:

Continuation of dry, hot weather during the week has caused considerable damage to pastures and drilled hay crops throughout most of southwestern Kansas. Corn is beginning to fire in places, but most row planted sorghums are growing well. Local showers have relieved the situation in a few small areas. The small acreage of matured winter wheat south of Garden City is being rapidly cut; it will about supply seed needs of one county. Yields range from almost nothing to possibly 20 bushels per acre on a few small areas.

"Hardland" areas south of Garden City show little or no evidence of recent dust storms. Sand drifts in the sandier areas still indicate the intensity of last springs winds. A few fields are still in condition to blow readily.

On the station row crops have been cultivated and weeded, and all except the corn look good. Land in wheat last year, but no fallow contains about 1.7 inches of available moisture in the first and second feet. Plots in corn contain nearly as much available moisture, but it is distributed throughout the upper 3 feet. Land in corn last year but fallow now contains 2.2 inches of available moisture in the upper 3 feet.

Visitors on the station included Dean Call, and Messrs. Willoughby, Cleavinger, and Compton of Kansas State College.

Maximum temperature, 107°; minimum, 60°; precipitation, 0.03 inch.

TUCUMCARI:

Although rain threatened much of the week, only 0.04 inch was received. While crops have made excellent growth, they are now showing moisture deficiency and will suffer severely unless rain is received very soon. Ranges have dried rapidly. No time was lost this week in cultivation and thinning of row crops, with the result that station work is in best condition of the year to date. Only a few late date plots remain unthinned, and practically all plot and increase land was either cultivated or knifed during the week. Three teams were kept in the field steadily throughout the week. Tree rows are to-day being disked and hoed.

Farmers are complaining that row crops are dying in portions of the county. It is said by observers that crops in this locality never changed from good to poor condition so rapidly as during the past few days. Last year the soil was of course extremely dry; rains in 1935 penetrated only a foot or two, so when this shallow layer of soil is exhausted the crops have no additional, deeper moisture to draw on. Growth the past few weeks has been rapid and succulent, so all crops are quick to show moisture deficiency.

Maximum temperature, 99°; minimum, 67°.

DALHART:

The discouraging, monotonous drought continues into the 37th month. During period of time the precipitation has fluctuated only slightly from 50 per cent of normal. For this year the precipitation has been less than 50 per cent of normal. Add to this statement the facts that it has been four weeks since a rain was received, the mean temperature for the past week has been 83° or 5° above normal, and for the same weekly period the average relative humidity has been 31 per cent, and it becomes increasingly evident that the early planted row crops are now almost doomed to failure. Corn, of course, has curled more than the sorghums. Sudan grass has suffered most of all the crops planted. With the exception of Sudan grass and millet these early planted crops could revive with an early rain. Those crops planted around the middle of June show by their color and growth that they need more favorable growing conditions, but they can exist for a longer period than the early planted crops.

Rather good to excellent growth on all crops has been made up to now, in spite of the fact that curling during the middle of the day has been in evidence since July 4. Sudan grass is showing heads where planted on fallow. It is extremely short for heading to start. Near normal to perfect stands have been secured on all plots of sorghums. Thinning was completed during the week. A start has been made in cleaning out weeds from rows where cultivation missed them. These weeds are from the seed transported by the winds. All plots have been cultivated where the planting was done previous to the last rain of four weeks ago. The F and G plots of corn in the CC series in the north field show the same characteristic retardation of growth as reported last year. These plants have the characteristic coloring of diseased-milo.

Visitors during the week have included Ricardo Kugler of Argentine, S. A., and some 10 or 12 of the superintendents, supervisors, and specialists from the five Panhandle ECW camps.

Maximum temperature, 102°; minimum, 63°; precipitation, trace.

BIG SPRING:

The first real hot weather of the summer has prevailed during the week. Although the temperatures have not gotten above 100°, it seemed much hotter because of the cool weather that this section had experienced during the preceding weeks. All crops are making a rapid growth; cotton especially has responded to the recent warm weather. A light shower of 0.24 inch was received on July 13. This helped to cool off the atmosphere, but will not help crops to any extent. Station work has consisted of cultivating and thinning cotton and sorghums. With the exception of a few late cotton plots and a little increase milo, thinning is completed.

Station visitors during the week included R. E. Karper and P. C. Mangelsdorf of the Texas Station.

Maximum temperature, 100°; minimum, 73°; precipitation, 0.24 inch.

LAWTON:

The 6-day period of heat, when the maximum temperatures ranged from 99° to 105°, with a 6-day average maximum of 103°, was broken on the 12th by a shower of 0.37 inch and a cool day on the 13th. The average wind velocity for this period was very low, and the heat required precaution on the activity of men and work animals.

Sorghums rolled, cotton leaves drooped, and corn dried rapidly each day during this hot period. The break in climatic conditions permitted quick recovery of sorghums and cotton. Many of the sorghums have been exserting first heads since July 10, and the prospects for good crops of feed throughout this part of the State are still bright.

Threshing of wheat and oats progressed steadily throughout the week. Yields are spotted, and the quality of wheat is poor. Threshing of small grain plots on the station, with the exception of a few seed plots, has been completed. Increase fields of oats have also been partly threshed.

WOODWARD:

The maximum temperature has been 100° or over every day of the past week, with an average of 103°. A slight shower of 0.07 inch occurred.

Wheat harvest was practically completed on the station and over the country. Yields are low, and quality of wheat varies from very good for that first to mature to exceedingly light and shrunken for late wheat. That abandoned and left standing will probably produce a heavy crop of volunteer. Early preparation on wheat ground will in many cases be foregone because of lack of means to do the work. This will make for low yields the coming season.

Row crops are making rapid growth and are still in splendid condition on the station. About the country they are in many cases exceedingly weedy due to late and hurried preparation for planting. Because of the still drought stricken condition of the Plains to the west and the fear endangered by last year's terrific drought there is little optimism among farmers.

Teucrium chamaedrys is a low, round-topped shrub with long spikes of purple blossoms blooming in mid-summer. It is a valuable addition to the small group of shrubs blooming at this time of year. It is vigorous and drought resistant. The first blossoms appeared on crape myrtle during the week. Many blossoms of perennial plants have shriveled during the week due to the sudden and intense heat.

Work of the week has consisted of cultivating, harvesting, threshing, picking fruit, watering and spraying nursery.

Maximum temperature, 108°; minimum, 72°; precipitation, 0.07 inch.

PENDLETON:

The weather this week suddenly turned hot. The first part of the week was cool, but the last two days temperatures soared to 99° and 107°. These high temperatures ripened the spring wheat at once, with a slight amount of shriveling. The wheat harvest is in full swing in this section, with yields somewhat higher than anticipated. The hot weather ripened and hardened the canning peas, and as a result a larger acreage will be combined for seed. On the station most of the winter wheats and spring barleys in the varietal trials have been harvested. Some crested wheatgrass and smooth bromegrass have been cut with the binder for seed.

Maximum temperature, 107°; minimum, 43°; precipitation, none.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 20 1935

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REPORT FOR THE WEEK ENDING JULY 20, 1935.

HAVRE:

With a range in maximum temperatures between 84° and 101° the past week was the warmest of the season. The latter part of the week showed a tendency towards showers, and in certain limited areas these showers were heavy enough to be a benefit to crops, but at the station the total of 0.20 inch was recorded on three days. The effect has been very temporary.

Grain crops that are well past heading seem to withstand the condition fairly well and are maturing rather rapidly. Corn and potatoes are suffering more during the past week than heretofore. A few plots of flax seem to be maturing in a fairly normal way. Oats and spring rye in commercial fields were cut for use in cattle experiments during the winter. Oats especially were short in straw but contained a large proportion of head. Spring rye will probably yield about one-half as much hay as winter rye.

Ranges have dried up on the prairie, but livestock are in very good condition for this time of the year. Our range and hay have improved during the last two weeks in the mountain section.

Visitors during the week included R. H. Mausker of the National Research Council of Canada; S. E. Clarke, Agrostologist, Dominion Department of Agriculture, Swift Current; J. A. Clark, Cereal Crops & Diseases; Director F. B. Linfield; and several 4-H club members, who were having their annual camp in Havre.

Maximum temperature, 101°; minimum, 55°; precipitation, 0.20 inch.

JUDITH BASIN:

The highest temperatures of the season the fore part of the week caused further deterioration of all crops. The hot weather was followed by two showers on July 17 and 18. Some hail fell on the latter day, but not enough to cause much damage. Crops have been holding their own since the rains, but regardless of how favorable the weather is from now until harvest the yields will be very light.

The 26th Annual Judith Basin Farmers' Picnic was held at the station July 18. A crowd of about 2,000 were in attendance. Rain and hail during the day kept the figure below that of former years. Interest in the work of the station was greater than that of previous years. Crested wheatgrass and the shelter-belt plantings claimed the interest of most of those inspecting the work. Director Linfield and Dr. Renne represented the college and station at the picnic.

J. A. Clark is at the station to-day in the interest of the cooperative cereal project.

Maximum temperature, 97°; minimum, 55°; precipitation, 0.49 inch.

HUNTLEY:

The last week has been the warmest of the season and on four days thunder showers have occurred which produced a fine display of thunder and lightning but did not bring much rain. Small grains have continued to mature or dry up, but corn and other cultivated crops are flourishing. These crops were given a second cultivation during

the week. Grasshoppers are moving into the plots from surrounding waste lands and despite the spreading of poison bran are causing noticeable injury to crops on border plots.

Hogs on peas pasture were weighed during the week. Gains made during the two weeks the animals have been on this pasture were very good, due to the fine quality of the forage produced this season. Growing conditions have been favorable to peas, and the amount of vines and seed available for grazing was fairly large.

Maximum temperature, 100°; minimum, 52°; precipitation, 0.40 inch.

SHERIDAN:

Continued hot weather over the entire week caused grain to ripen, or dry ripe, fast. Only winter wheat and the earliest seedings of the earliest varieties of barley and oats are fairly well filled, later seedings and later varieties of oats and barley being badly shrunken. Corn curled badly during the day, and Sudan grass sown solid and in rows on light soil fired badly. A light shower on the afternoon of the 19th probably will be of some benefit to corn and late forage.

Harvesting has been in progress throughout the week, much of the winter wheat, early barley, and Brunker oats being cut, as well as the remainder of the winter rye. Weeds have come in thickly in some row crops, and as much of these crops as possible were gone over to clear of Russian-thistles. Grasshoppers are coming in thick over more of the station land. More poison was scattered for the grasshoppers, and a fairly good kill was obtained in places. Blister beetles also are doing considerable damage to alfalfa left for seed.

H. L. Westover was at the station on the 16th.

Maximum temperature, 101°; minimum, 49°; precipitation, 0.39 inch.

DICKINSON:

Crops developed rapidly early in the week as a result of high temperatures. A maximum of 97° on Tuesday was the hottest day of the year so far. Rust developed rapidly early in the week but slowed down as a result of the drying weather. Unless very wet, humid weather follows, early grains will not be seriously damaged in this locality. In the districts north and east where heavy rains occurred early in the month and where the wheat made a rank growth and will be later in maturing, rust infection is very heavy at present. Early barley is turning and will be ready to cut about the middle of next week. Early wheat is now in the dough stage of development. Corn has grown rapidly during the week and is beginning to tassel.

Visitors: J. A. Clark, Cereal Crops and Diseases; C. H. Plath; and T. S. Thorfinson.

Maximum temperature, 97°; minimum, 51°; precipitation, 0.21 inch.

MANDAN:

Agronomy - The past week has been hot and oppressive and very favorable for rust development. Rust has now seriously struck the wheat throughout this area. Reports of damage are up to 50 or more per cent. The Kubanka wheat in the rotations is rusted, but it is difficult to estimate the probable damage. Cultivation of all row crops and fallow plots was completed during the week. Corn is making a rapid growth.

Maximum temperature, 97°; minimum, 61°; precipitation, none.

Cooperative Grazing Experiment - Steers on pasture are doing well, but flies and mosquitoes are now bothering them a great deal.

Arboriculture - Hoeing and cultivating in nursery fields has been in progress all the week. All stock is now making a rapid growth. A set of conifer seed beds has been planted to determine the best control measures for "damping-off". Caragana seed is ripening fast and will be ready for collection next week. The set of pods is only 25 per cent of normal, and most pods contain only 1 or 2 seeds as compared with a normal of 5 to 8. The wet weather at the time of blossoming, which prevented entrance of bees, may be responsible for the poor set of seed in pods.

Horticulture - Vegetables of all kinds are making rapid growth. Peas are past their season, and the yield was excellent. Cabbage, cauliflower, beets, carrots, and waxbeans are in their prime. Tomatoes, sweetcorn, and potatoes are a little behind schedule but coming along nicely. This is one year when the pruning to single stem and staking of tomatoes are showing up very strikingly. The fruit on these plants has set much heavier and is much larger than those left on the ground. Bagging of shoots of sweetcorn was started to-day. This project looks very promising this year, as the various strains show up unusually striking in their respective traits.

So far it has not been necessary to irrigate the lawns about the station grounds, and they are still in excellent condition. There is little bloom in shrubbery, ash leaf spirea being the only one in bloom, but the flower beds are quite well advanced and beginning to make a nice display. Perennials in bloom include Delphinium, Hemerocallis gyposphila, Papaver nudicaule and Platycodon. Umbellalum lilies made a striking display earlier in the season and will be followed by regal and tiger lilies, which at present are budding freely.

Juneberries, currants, and part of the gooseberries have been picked. Juneberries are giving heavy yields of good quality fruit. Success is the best variety under test. Currants gave variable yields, many of the bushes being weakened by last years drought. Red Dutch, London Market, Red Lake, and Wilder were among the highest yielders. Young currant bushes in the coulee orchard yielded higher than the older bushes in the variety test. Gooseberries also gave high yields in the coulee orchards but variable yields in the variety test. Encourage by warm weather after the last rains, weeds are growing very rapidly. Cultivating and hoeing have been in progress. A cover crop has been sown in the south crab orchard and hardiness test. Oats, millet, and peas were used.

Visitors for the week included J. A. Clark, Cereal Crops and Diseases; H. J. Clemmer and H. E. Engstrum, Soil Conservation Service; C. R. Towne, U. S. Forest Service; R. O. Cromwell and M. C. Gieseike, Plant Pathologists.

BELLE FOURCHE:

Hot, dry weather prevailed throughout the week. No measurable amount of precipitation was received, and the daily maximum temperatures during the week ranged from 90° to 100°. All small grain is rapidly drying ripe. Fair yields of barley will be produced, but very little grain will be obtained from other early spring crops. Corn and sorgo are still making a vigorous growth, but corn leaves curl badly during the day. Winter rye has been harvested, and cutting of winter wheat

has commenced.

D. A. Spencer, Bureau of Animal Industry, visited the station during the latter part of the week.

Maximum temperature, 100°; minimum, 54°; precipitation, trace.

ARCHER:

During the past week the weather was warm and dry. The total precipitation for July to date is 0.96 inch. These conditions have slowed up the growth of wheat, oats, and barley and caused considerable burning. Other crops are in good condition. Prairie grass growth is at a standstill.

Work at the station consisted of various weeding operations and preparation for and cleaning up after the annual Farmers' Field Day which was held July 18. In addition to Wyoming farmers a goodly number of farmers from Colorado and Nebraska were in attendance. Official visitors were Dean J. A. Hill; Director W. L. Quayle; D. R. Sabin, Extension Agronomist; County Agent Toyne, Greeley, Colo.; County Agent Llewellyn, Cheyenne, Wyo; and Miss Gladys Oller, Home Demonstration Agent, Cheyenne, Wyo.

Maximum temperature, 85°; minimum, 48°; precipitation, 0.96 inch.

AKRON:

Generally clear, but decidedly cooler than the weather of the first ten days of July. Scattered thunder showers again prevailed during the week, but the locality still needs rain. Good progress has been made with current field work. The control of weeds remains one of the field problems. Harvesting also must be attended to as the varieties ripen. Some harvested varieties are now ready to be threshed.

Small grains are now ripening more slowly since the advent of the lower daily maximum temperatures. The late spring seeded crops are showing no dire need for moisture, though it is quite evident that growth is being curtailed. Corn now stands nearly waist high and is showing good color. Hay millets are showing the greatest need for moisture.

Maximum temperature, 95°; minimum, 51°; precipitation, 0.17 inch.

NORTH PLATTE:

Weather has been dry, warm, and windy for the week, and for the month to date. Rain and signs of rain were wholly lacking. Evaporation for each of the past four days has exceeded 0.4 inch. Grain has ripened rapidly. On the station two binders have been in operation most of the week. Only a few miscellaneous plots remain to be cut. Spring grains were less affected by rust than winter wheat and fair quality is indicated. Corn planted thickly for ensilage is beginning to wilt. The irrigation pump was started on the 19th and will probably be kept in operation for a month or more if dry weather continues.

Maximum temperature, 97°; minimum, 63°; precipitation, none.

COLBY:

This week has been dry and fairly windy with temperatures about normal. Rain is needed, especially for pastures. It is also a critical period for corn, as the first tassels are beginning to show. All the

early fall tillage was done during the week. The ground was generally dry and hard. None of the small grain plots produced any grain and only MC D spring wheat and 360 B, barley, produced any straw. Nothing was done to the small grain plots previous to the early fall tillage operation. Those that are to remain in stubble over winter were mowed to kill the numerous weeds. The barley drilled in the winter wheat plots was not tall enough to cut even with the mower. The barley had dried up completely. Plot MC D spring wheat produced 140 pounds of straw and 360B, barley, produced 100 pounds.

Maximum temperature, 99°; minimum, 59°; precipitation, trace.

HAYS:

Dry, hot weather prevails. Row crops are continuing to make fair growth, but more or less wilting takes place every day. Corn on plowed ground averages about 28 inches high, on fallow about 24 inches, and on listed ground about 18 inches. Except for the difference in height the corn looks healthy and very good excluding insect injuries which will be noted later. Kafir averages about 18 inches high on all ground plowed or blank fall-listed where planting was done by nosing out the old furrows. It is a little shorter on ground where seeding was done with lister without previous tillage. Milo is about the same height as the kafir.

There is little difference in the growth of kafir or milo on the various seed-bed preparations, except perhaps it is a little stronger on the fallow even though the height is about the same as on the cropped land. On the milo plots a number of the first and second leaves from the ground are turning brown. Fewer plants are affected on the fallow plots than on the cropped plots. There is no indication of the milo disease at this time. The brownness of the leaves is thought to be due to drought and heat. Except for the few brown leaves at the ground, the milo appears to be in excellent condition. Kafir in the group of 3-year rotations where manure is applied at different rates made a more rapid early growth than the check plots. That difference has now almost disappeared.

Worms are working on the corn causing considerable disfiguration of the leaves. The worms work on the upper part of the plant, cutting through the leaves before they have unfolded, which results in a row of holes across the leaves. Some work of this kind has been observed every year, but not enough plants were affected to make it serious. Just recently however, a rather heavy outbreak has occurred in our corn plots. Not less than 25 per cent of the plants are infested. However, only a few of the plants have been injured near enough the heart to prove fatal. There is some uneasiness as to how long these worms may continue to work and whether or not they may eventually cause considerable damage to the corn.

Visitors: Messrs. Cardon, Hollowell, and Westover of the Bureau of Plant Industry and President Farrell, Professors Throckmorton and Aldous of the Kansas State College.

Maximum temperature, 99°; minimum, 59°.

GARDEN CITY:

Only a trace of precipitation fell at Garden City the past week, but showers and heavy rains were received in small areas throughout southwestern Kansas. Cloudbursts west on the Arkansas River continue to furnish occasional good runs of irrigation water. Crops under

irrigation look very good, but dry-land crops are suffering from dry, hot weather in most places. On the station corn and sorghums show damage due to drought. Drilled Sudan grass is burned brown. Weeds were clipped on plots where wheat failed and no tillage is called for until late fall or spring. Sudan grass for green manure was plowed under.

Maximum temperature, 100°; minimum, 62°; precipitation, trace.

It has been 25 days since the last significant rain fell.

TUCUMCARI:

All station crops have made excellent growth the past week, but older crops have rolled to some extent during the hottest part of the day. Serious reduction in yield will result if rain is not received within a week. Ranges are drying fast. Over much of the county drought and weeds have taken heavy toll of row crops, in some neighborhoods not over 25 per cent of a stand remaining. Wheat harvest has been in progress 10 days, but yields are very low, ranging generally from 3 to 7 bushels.

During the week wheat and rye plots were threshed and cleaned, some cultivation performed, weeds hoed and mowed, fallow fields cultivated, and old alfalfa spring tooth harrowed to kill weeds and work down ridges along the rows, formed by soil blowing last winter and spring. Wheat on fallow produced 5.7 bushels and rye on fallow 7.1 bushels to the acre. MCB wheat and rye produced between 1 and 2 bushels, and MCA plots were failures. Wheat in a variety test produced from 6.5 to 12.2 bushels to the acre. From seeding to harvest these variety plots received 5.40 inches precipitation.

Maximum temperature, 94°; minimum, 60°; precipitation, 0.05 inch.

DALHART:

A rain of 0.52 inch the afternoon of the 14th furnished sufficient moisture to revive the early planted sorghums somewhat and gave moisture for the later planted sorghums to make normal growth. Where there was much growth of either crops or weeds the plants were suffering for moisture again before the close of the week. The rain gave opportunity for cultivation of plots which had not received moisture after planting. Cultivation was continued throughout the week as was hoeing of weeds out of rows. The latter job was necessary on account of weed seed distribution by the winds. While the station is reasonably free of weeds now, there still remains about a week of grubbing trees and trimming brush from trees which did not fully revive this spring so that the station can present a good appearance.

Corn has now wilted and dried to the extent that only partial recovery could take place. Sudan grass planted at the same time is in about the same condition. Broomcorn is suffering almost as badly. All sorghums planted near the 1st of June have reached their maximum height for the moisture which is available. If rain is not received within the next week, they cannot make much grain.

E. F. Chilcott was a station visitor during the week.

Maximum temperature, 94°; minimum, 58°; precipitation, 0.52 inch.

BIG SPRING:

Cool, cloudy days have prevailed all this week, and these conditions have been favorable for crops that are beginning to need rain. A light shower of 0.11 inch on Monday failed to supply the

moisture needed. All plants in both rotation and variety plots are making good growth. Club kafir, Sooner milo, Standard feterita, and Sudan grass in the May 15 planting are well headed. Sudan grass plots in the rotations should be ready for first cutting the first of next week.

Fruit gathered during the week consisted of the harvest of the one tree of Fanny apple, which yielded 70 pounds of excellent fruit; Texas King and Carmon peaches with small yields of very poor quality fruit; and the Munson, Captain, Manito, and Long John grapes with small yields of fair quality grapes. Station work for the week has consisted of hoeing and thinning the large block of milo and Sumac, thinning cotton varieties and dates, and cultivation of rotation block and cotton varieties and spacing.

E. F. Chilcott was a station visitor on July 17 and 18.

Maximum temperature, 92°; minimum, 60°; precipitation, 0.11 inch.

LAWTON:

Moderate temperatures the past week and two or three days of semicloudy weather have enabled row crops to continue normal development in spite of the fact that July precipitation to date consists of only one shower of 0.37 inch. Most of the sorghums except a few late, replanted plots are heading. A few local rains were reported in the northwest part of the county during the week. Threshing of small grain crops throughout most of the county has progressed steadily, and some plowing has been observed. Wheat is of poor quality with yields ranging from 3 to 10 bushels. Oats, in general is producing good yields.

Station threshing was completed on the 19th. Wheat varieties yielded from 3.5 to 13.5 bushels per acre, and the weight per bushel ranged from 55 to 61. Oats yields averaged better than 20 bushels per acre, testing from 28 to 34 pounds per bushel. Wheat on the rotation plots has not yet been cleaned and the weights calculated.

Early maturing varieties of wheat in the variety test that produced the highest in yield in 1934 were stunted in the spring of 1935 by dry weather and suffered the heaviest hail damage in May, resulting in the lowest yields this year.

Maximum temperature, 97°; minimum, 62°; precipitation, trace.

WOODWARD:

Sorghum crops are making an exceedingly rapid growth, due to the moisture stored in the soil in May when 7.17 inches of rain fell. June 1-6 another inch came. Since that time, a period of 43 days, only 1.03 inches has been received in scattered showers. Another good rain will be necessary within a couple of weeks. Wheat harvest is still going on over the country, with many people, only with the hope of securing seed for next year's planting. The average of all wheat yields on the sandy part of the station was 11.4 bushels with a maximum of 20.5. The average yield of all plots on the harder land was 7.8 bushels with a maximum of 17.3. The past season favored late plantings on sandy soil. These yields are far higher than was anticipated before harvest.

Aniscanthus Wrighti, a low rather weedy appearing shrub, is very attractive at present because of its profusion of orange red blossoms. "Mallow marvels" give all the flaming color of 4th of July decorations. The dark sparkling blue of the vitex blossoms enliven the garden. There is a great variety of form and color in the perennial planting.

Maximum temperature, 98°; minimum, 65°; precipitation, none.

PENDLETON:

The weather for the past week has been hot, with maximum temperatures 90° or more each day. A temperature of 110° was recorded on the 14th, this is the highest temperature recorded since the establishment of the station. The high temperatures on the 13th and 14th were accompanied by a brisk northeast wind. The combination of low humidity, high temperatures, and wind ripened the late sown spring wheat prematurely, as well as prematurely ripening the canning peas. Wheat harvest is in full swing throughout the county with very good yields reported. On the station the cereal and grass varietal trials have been cut with the binder.

Maximum temperature, 110°; minimum, 49°; precipitation, none.

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AUG 21 1935
BUREAU OF PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

prior consent of this division.

REPORT FOR THE WEEK ENDING JULY 27, 1935.

HAVRE:

One inch of precipitation during the past week and fairly moderate maximum temperatures have improved growing conditions in this locality. Two heavy showers in four days, have given a little reserve of moisture. Fallow ground is wet down as deep as it was plowed. Small grains that were not injured too severely have been benefitted, with the result that quality should be improved. Following the first shower early in the week a number of plots matured quite rapidly. Most of the winter wheat and a large part of the early oats in variety tests are harvested. Corn has improved very materially and is starting to tassel. Irrigated alfalfa is beginning to bloom, and seed has set in very good shape.

Grasshoppers have increased a great deal during the last ten days. The Says Grain bug that has caused damage in this locality for three or four years has also increased recently. This is a large sucking bug, green in color, that is especially injurious to wheat. It sucks the sap from the upper part of the stem and this entirely blasts the head. The amount of damage can hardly be noted until crops are near maturity.

Robert L. Shotwell, U.S.D.A. Entomologist, was a visitor during the week.

Maximum temperature, 95°; minimum, 56°; precipitation, 1 inch.

HUNTLEY:

Small grains have ripened rapidly during the week, and the combine-harvesting of winter wheat is now well under way on the benchland farms. On the plots, winter wheat, oats, flax, and barley were cut. Spring wheat is still somewhat green. Corn is beginning to tassel and continues to look well, although soil samples indicate that the supply of available moisture is getting low. Sudan grass, sorgo, and soybeans are making a rank growth and as yet have shown no sign of drought.

Grasshoppers continue to swarm over the fields from the rangelands, and poisoning activities have been pursued vigorously. Although the insects have injured small grains and corn to some extent, they appear to be concentrating on alfalfa and in some places have eaten the second growth of the crop down to the ground.

Maximum temperature, 94°; minimum, 53°; precipitation, 0.24 inch.

SHERIDAN:

Hot weather continued over the entire week, with one light shower. Grain continued to dry up. Harvesting of barley, except late seedings in the dates of seeding test, was completed. Oats also were harvested except varieties ripening later than Markton and some plots of Markton which were slower in ripening. Reward spring wheat in the varieties and Marquis on land cropped last year were cut. The station Field Day was held the 25th. There was a fair attendance, probably a larger proportion of ranchers than at previous meetings. Dean Hill and Mr. Quayle were present and addressed the meeting. J. A. Clark was at the station the first of the week. Grasshoppers are becoming more numerous on the station and are now doing considerable damage to late crops. More poison bait is being scattered, but

the insects come in from land outside faster than they are killed by the poison.

Maximum temperature, 99°; minimum, 50°; precipitation, 0.33 inch.

DICKINSON:

Dry weather through the week with a fairly dry soil and high temperatures caused rapid maturity of crops. Early varieties of oats on corn ground were cut July 22 and early barley on the 26th. Barley in the rotations was cut on the 26th. Wheat and oats in the rotations will be ready to cut the first of next week. Dry weather has delayed development of stem rust, but practically all wheat shows some damage and the loss on late wheat may be heavy, particularly where heavy rains fell early in the month. Two blocks of crested wheatgrass were harvested for seed. Other areas better favored by soil moisture will be harvested the first of the week. The stand is thick and fairly heavy, and yields will be average or better. Corn is tasseling and millet is heading. These crops and flax need rain.

About 40 4-H boys and girls from Antelope, N.Dak. visited the station yesterday.

Maximum temperature, 96°; minimum, 54°; precipitation, trace.

MANDAN:

Agronomy - The past week has been favorable for field work. The temperatures were not unduly high, but some days were sultry. Winter rye was harvested on the 20th. Crested wheatgrass was cut during the week for seed. The seed crop should be good. Barley in the rotations was harvested. Weeds have made a heavy growth during the past two weeks. Corn is in excellent condition, and much better than usual.

Maximum temperature, 94°; minimum, 62°; precipitation, 0.57 inch.

Cooperative Grazing Experiment - Pastures contain an abundance of feed at present. Weeds are more abundant than normal in the native pastures.

Arboriculture - Hoeing weeds around edges of fields and roadways, and cultivating, and hoeing nurseries has been in progress during the week. Dead growth continues to appear in all nursery fields at a rapid rate. Ponderosa pine seedlings planted in the series of "damping-off" control experiments emerged onthe eighth day. Spruce seedlings have not yet emerged.

A number of C.C.C. workers have been collecting caragana seed all the week. The work will be completed today (Saturday). The seed crop is very poor. The total amount of clean seed will probably not be over 150 pounds collected off an area which normally would yield between 1 and 2 tons.

Mr. L. G. Baumhofer of the Division of Forest Insects, Western Bark Beetles, and Prof. J. A. Munro, N. Dak. State Entomologist, spent Friday at the station examining coniferous trees for evidences of pine tip-moth injury. Ponderosa, Scotch, Austrian, jack, and Norway pine were all found to be infected, the most severe injury being found on the ponderosa. The latter species has been infected for many years, but little damage has been noticable until this year on the other species.

Horticulture - The hot weather during the week caused rapid growth of all vegetables. Cabbage was the leader, being harvested at

the rate of 150 pounds per day, with beans and wax beans a close second, and third. Second planting of cauliflower is yielding fairly well, but the quality is rather poor. Summer squash, cucumbers, and Warba potatoes were new vegetables harvested during the week. The Warba seems very promising, being slightly earlier than Early Ohio and a better yielder. Sweet corn is coming along at a rapid pace. The Gills Early Golden Market should be ready by next week and will be followed shortly by Sunshine. Bagging and pollinating has been in progress in the sweetcorn breeding project during the week. This is one year when smut susceptibility shows up, and considerable rogueing out of otherwise promising strains has been done.

Raspberries have started to ripen, but the crop is light. Black varieties are yielding more than the red varieties, Cumberland and Farmer both producing fair crops. King, Latham, and Viking are yielding most among the reds. Chinese cherries are bearing fair crops except where the bushes were badly killed back from drought. A few new selections have been made in the breeding blocks. Some of the old selections have been killed by last year's drought. Gooseberries in the breeding blocks are yielding heavy crops, and some of the seedlings appear promising.

Visitors for the week included S. C. Salmon, K. S. Quisenberry, and A. C. Dillman, Cereal Crops and Diseases; M. C. Gieseike, Plant Pathologist; L. G. Baumhofer, Entomologist, (Hdq. Denver, Colorado); J. A. Munro, N. Dak. State Entomologist; P. V. Cardon; and B. S. Groom, Agricultural Supervisor, Greater N. Dak. Association.

BELLE FOURCHE:

The summer drought and hot weather continued throughout another week. A few thunder showers occurred, but the precipitation was negligible. High winds accompanying the showers blew down some of the corn and did slight damage to other crops. A hot wind on July 26 was very injurious to all plant growth and greatly hastened the ripening of small grain. Oats, barley, and the remainder of the winter wheat ripened during the week and were harvested. Corn is tasseling and is withstanding the hot, dry weather remarkably well, although the leaves curl badly during the day. Sorgo continues to make a good growth, with no indication of suffering from lack of moisture.

Maximum temperature, 103°; minimum, 55°; precipitation, 0.25 inch.

ARCHER:

During the past week the weather was warm with two local showers at the station. In localities where no rain occurred, the corn is rolling and potatoes are in need of moisture. At the station the row crops are in good condition but the drilled crops are in need of rain. Work at the station consisted of weeding and haying. Crested wheatgrass plots have been cut and piled, and barley in the dairy field has been cut for hay.

F. A. Coffman was a station visitor July 23.

Maximum temperature, 94°; minimum, 51°; precipitation, 0.65 inch.

AKRON:

Clear and quite generally hot the past week. Rotation spring wheat plots were harvested near the middle of the week. This leaves only the Hard Federation, which was used for reseeding the winter wheat plots. Foundation seed supplies of Club Mariout, Vance (Smyrna),

and Flynn barleys were threshed. Yields ran better than 40 bushels per acre, but the grain was light, running only 40 pounds or a little better. There was an enormous amount of straw to be handled.

There has been no appreciable rainfall in July. Despite this, the row and late spring seeded sowed crops are holding nicely. Corn is about waist high and showing the tassel. Rain certainly will be necessary for the corn soon. While rains are needed, the clear weather is ideal for harvesting and threshing.

Visitors were R. D. Rands, Sugar Plant Investigations; C.O. Johnson and C. A. Sunison, Cereal Crops and Diseases.

Maximum temperature, 99°; minimum, 54°; precipitation, 0.

NORTH PLATTE:

Warm, dry weather has continued, except for a very local rain and hail storm on the 22nd. The worst hail damage occurred just west of the station buildings, where corn leaves were badly shredded, and alfalfa was too badly bruised to leave for seed. Precipitation at the Substation buildings was 2.03 inches, at the North Platte weather bureau 0.40 inch, and on the table at the new dry land farm 0.21 inch.

Corn has continued rapid growth, and first tassels have appeared. No threshing has been done on the station on account of the intervention of second cutting of alfalfa. A 4-man crew has been at work all week sampling the new dry land plots for future nitrogen and organic matter determinations. Composit samples from 1-6 and 7-12 inch depths from 15 holes in each plot are being used.

Maximum temperature, 99°; minimum, 60°; precipitation (table gauge) 0.21 inch.

COLBY:

The weather continues dry and hot. It has not been very windy, but on two days the wind was very hot. The pastures are dried brown. Corn is firing badly in many places. Last week it showed signs of beginning to head on the plots, but to date only a tassel here and there are showing. The sorghums wilt badly during the heat of the day and have practically ceased growth. Where weeds are thick they have exhausted the soil moisture and are dried up. Weedy corn fields are generally burned up so that rain would not revive them. This is also true of some weedy sorghum fields. The wheat that was harvested in the north part of this county is yielding from almost nothing to about 6 bushels to the acre. The test weight ranges between about 40 and 56 pounds to the bushel.

Maximum temperature, 101°; minimum, 61°; precipitation, 0.17 inch.

HAYS:

The first drought of the season(a continuation of the 1934 drought) was broken by generous rains in May and June. Another commenced with the first of July and has been continuous to date. All row crops are wilting badly every day. Corn which is beginning to tassel is suffering considerable damage. Many top blades are turning white, and the few tassels which have emerged are cooked. No silks have emerged. The corn in the Rotations in Field-A is suffering considerable more than that in Field C. The corn in Rotation 3 is especially badly burned. Kafir is wilting badly and suffering at least

some retarded development. It is suffering considerable more on spring and fall plowed ground than it is on ground which had been blank-listed either in the fall or early spring. Sowed feed crops are suffering from the drought and heat more seriously than the rowed crops. Short-grass pastures are all brown.

A trip June 26, south about 30 miles then easterly over US highway 96 to Emporia then return by going north a short distance and westerly over State Highway 4 revealed that row crops and drilled feed crops which have made little heavier growth east than at Hays are suffering from drought nearly, if not fully as much as in the vicinity of Hays. Rain is very much needed all along the 440 miles covered. Rains must come within two weeks or there will be danger of a shortage of feed crops again this year. As for the prospects we read about in the papers of the 1936 bumper wheat crop in this area that has failed the last two years or more, such prospects are not yet within sight so far as I can see. As a matter of fact, on many fields where wheat was a failure this year, weeds, still on the ground, have consumed all the moisture that has fallen and the ground is actually drier now, the last of July, than it ordinarily is at this time. It is drier than it would have been had a heavy crop been harvested, because there would have been few weeds and the wheat would have used little of the moisture after the middle of June. On such land an average wheat crop can be made only if there is an unusually heavy rainfall during the remainder of the season or winter. Even on land on which tillage has been sufficient to prevent week growth, there is below normal storage of moisture.

Maximum temperature, 103°; minimum, 69°; precipitation, 0.07 inch.

GARDEN CITY:

Crops on irrigated land along the Arkansas River continue to look very good, and sorghums on dry land areas favored by heavy local showers during the past two weeks also look very good. In general, pastures on the "finer textured" uplands are burned brown, and on the sandhills the shallow rooted plants are badly burned. Drilled feed crops are in general burned brown. Field work on the station consisted in rod weeding fallow plots, harvesting a very light growth of Sudan grass where it was planted in 44-inch rows, and taking soil moisture samples.

Maximum temperature, 102°; minimum, 66°; precipitation, trace.

TUCUMCARI:

Crop growth in this vicinity has been practically at a standstill this week, extensive rolling of leaves occurring on early planted crops. Over some of the county local showers were received, but in some neighborhoods row crops are dying from drought. Ranges generally are deteriorating fast.

All station crops made rapid growth during July until a week ago. Considering planting dates, growth was unusually rank, with suckers very numerous. Since the lower levels of station fields are still very low in moisture, following the severe 1934 drought, plants are depending largely on moisture in the first 2 feet of soil. Thus the condition of plants changes almost over night, as they reach a size where moisture requirement is high.

J. E. Smith of the Soil Conservation Service, formerly of the Woodward station, was a station visitor this week.

Maximum temperature, 97°; minimum, 62°; precipitation, 0.30 inch.

Precipitation Jan. 1 to date, 7.00 inches. Precipitation, past 20 months, 13.13 inches; normal, 26.62 inches.

DALHART:

Two rains during the week, although they were local in extent, changed the immediate crop prospects from doubtful to promising. A rain of 2.02 inches which fell the evening of the 21st was largely torrential in character and considerable run off resulted. Another rain which totalled 0.37 inch on the following night helped to brighten crop prospects considerably. While these rains did not extend very far from the station in any direction, they were two of several such local rains which have been dotting the landscape. Large areas still remain dry, and the crops in these spots are in a critical condition. Crops which a week ago were despaired of on the station have shown remarkable recovery. Growth during the week has been rapid. Even corn has shown a pronounced recovery. While there is but little moisture in the ground for the use of the crops, the visible crop prospects are fully normal for this season of the year. It was not until Thursday afternoon that cultivation was possible. A new row-crop tractor cultivator was used for the first time this week on plots. Its use was fully as satisfactory as horse drawn equipment.

The first planted sorghums are heading. Milo disease in the milo-disease nursery and on variety plots made its first visual appearance during the week.

Maximum temperature, 96°; minimum, 62°; precipitation, 2.39 inches.

BIG SPRING:

Cool, cloudy days have prevailed all week. Light showers during the early part of the week have caused crops to grow remarkably well, and all but the fallow plots are a vivid green. The May 15 planting of sorghums is well headed, with Club kafir, Sooner milo, and Standard feterita starting to head in the June 1 date. Reed kafir in the rotation plots is well headed, and cotton is growing rapidly. The Beacon, Black Spanish, Dr. Collier, and Ben Hur grapes were picked this week. Fair yields of excellent quality grapes were obtained.

Station work for the week has consisted of hoeing the rotation block, evergreen planting, and fence rows. All plots are practically free of weeds now. The last two dates of sorghums were cultivated, and a small block of Hegari knifed.

Maximum temperature, 93°; minimum, 67°; precipitation, 0.53 inch.

LAMTON:

Several threats of rain during the past week brought only showers of inconsequental value to the station, a good rain in the northern part of the county, and scattered showers elsewhere. Corn on the upland dried rapidly during the past 10 days and fireing is now rapidly increasing on the creek bottom fields. A few station plots of corn were harvested on the 26th, and the remainder will require harvest in the near future. Cowpeas have made an unusually vigorous growth, and they should be plowed under for green manure, but such an attempt on one plot showed that the ground is too hard and dry to permit such operations. Cotton is making a very rapid growth, and blooms and squares are present on plantings made as late as June 3 and

6. Early maturing varieties of grain sorghums planted Apr. 25, are well headed and will produce good crops of grain if temperatures do not become too severe.

July precipitation to date amounts to only 0.54 inch, and vegetation of all kinds would be greatly benefitted by additional moisture. Moderate temperatures, with the exception of one week, and the late infestation of chinch bugs in the sorghums have, in general, provided good growing conditions.

Maximum temperature, 100°; minimum, 70°; precipitation, 0.17 inch.

WOODWARD:

The sorghums on the station and in the vicinity of Woodward where they have been kept free of weeds have made very vigorous growth to date, despite the fact there have been only a few light showers since the ford part of June. However, many of them are approaching heading, and rain within the next week is essential to prevent many of them burning in the boot. On the station where crops were planted later than over the country generally the situation is not quite so critical. Sowed feed is of course burning badly.

There is the worst infestation of red spider on elm trees that has ever been known. Red spider is also bad on many other plants. Another pest that is particularly injurious during dry weather is a twig borer of the red cedar.

A new plant this year is Sophora flavescens. It is making a most vigorous herbaceous appearing growth. Indigofera Kirilovi is doing well as usual during the hot, dry summer. It is a low leguminous flowering shrub. Aniscanthus Wrightii is a brilliant show. Malva alcea is a rather sprawling perennial with very pretty rose colored flowers 2 inches across. It is a real addition to the garden for the hot summer months. Salvia nemorosa makes a close clinging mat studded thickly with short flower spikes.

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